

WHAT IS CLAIMED IS:

1. A method for identifying transactions from WIP status updates, the method comprising the steps of:
receiving WIP status updates for a semiconductor product from at least one supplier in a supply chain for the semiconductor product; and
identifying transactions based on a comparison of the WIP status updates with a previous WIP status for the semiconductor product.
2. The method of claim 1 wherein the step of receiving WIP status updates comprises:
receiving the WIP status updates from a single supplier.
3. The method of claim 1 wherein the step of receiving WIP status updates comprises:
receiving the WIP status updates from at least two different suppliers.
4. The method of claim 1 further comprising:
converting the WIP status updates to a generalized form, wherein the step of identifying transactions based on a comparison comprises identifying transactions based on a comparison of the WIP status updates in the generalized form with the previous WIP status for the semiconductor product
5. The method of claim 4 wherein the step of converting the WIP status updates to a generalized form comprises:
converting all WIP status updates to the generalized form.
6. The method of claim 4 further comprising:
receiving WIP transactional updates for the semiconductor product from at least one supplier in the supply chain for the semiconductor product; and
converting the WIP transactional updates to the generalized form.

7. The method of claim 4 wherein the generalized form identifies a processing status of the semiconductor product according to a predefined set of logical operations that describe the supply chain.
8. The method of claim 7 wherein, for at least one supplier, the WIP status updates received from that supplier identify a processing status of the semiconductor product according to processing steps, and the processing steps have a finer granularity than the logical operations in the predefined set.
9. The method of claim 1 wherein the step of identifying transactions based on a comparison comprises:
 - identifying supply chain events based on a comparison of the WIP status updates with the previous WIP status for the semiconductor product; and
 - interpreting the supply chain events as transactions.
10. The method of claim 9 wherein the step of interpreting the supply chain events as transactions comprises:
 - creating transient WIP status if a supply chain event is interpreted as at least two transactions.
11. The method of claim 1 wherein:
 - the WIP status updates are expressed in lots, each lot containing a quantity of the semiconductor product; and
 - the step of identifying transactions occurs on a lot basis.
12. The method of claim 11 wherein the transactions are selected from a predefined group that includes: a start transaction, a move transaction, a merge transaction, a split transaction, a scrap transaction, a bonus transaction, and an update transaction.

13. The method of claim 11 wherein the step of identifying transactions comprises:
identifying transactions based on a change in the quantity of semiconductor product in a lot.
14. The method of claim 11 wherein the step of identifying transactions comprises:
grouping lots from the WIP status update with lots from the previous WIP status; and
identifying transactions within the groupings.
15. The method of claim 14 wherein the step of grouping lots is based on a customer product ID.
16. The method of claim 14 wherein the step of grouping lots is based on a main lot ID.
17. The method of claim 14 wherein the step of grouping lots is based on a customer lot ID.
18. The method of claim 14 wherein the step of identifying transactions within the groupings comprises:
classifying lots according to a change in the quantity of the lot from the previous WIP status to the WIP status update; and
identifying transactions by combining lots according to their classifications.
19. The method of claim 14 wherein the step of identifying transactions within the groupings comprises:
classifying lots according to a change in the quantity of the lot from the previous WIP status to the WIP status update;
identifying possible valid combinations of lots according to their classifications; and
identifying transactions by evaluating the possible valid combinations of lots.

20. The method of claim 14 wherein the step of identifying transactions within the groupings comprises:

classifying lots according to a change in the quantity of the lot from the previous WIP status to the WIP status update, including classifying lots as quantity gaining lots, quantity losing lots, potential split-child lots and potential merge-child lots; identifying possible split events as valid combinations of quantity losing lots with potential split-child lots; identifying possible merge events as valid combinations of quantity gaining lots with potential merge-child lots; identifying possible valid combinations of possible merge events and possible split events; and identifying transactions by evaluating the possible valid combinations of possible merge events and possible split events.

21. The method of claim 1 wherein the step of identifying transactions comprises: accessing a set of rules governing an identification of transactions; and applying the rules to the WIP status updates and the previous WIP status.
22. The method of claim 1 wherein the step of identifying transactions comprises: defining a priority among transactions; and generating a notification if at least two possible transactions of equal priority can be identified from the same WIP status update(s).
23. The method of claim 1 further comprising: updating the previous WIP status for the semiconductor product based on the transactions.
24. The method of claim 23 further comprising: making reports of the updated WIP status available to a customer.

25. The method of claim 23 wherein the step of receiving WIP status updates for a semiconductor product from at least one supplier comprises:
intercepting at least one WIP status update transmitted by one of the suppliers to a customer before the WIP status update reaches the customer.
26. The method of claim 1 further comprising:
processing the transactions to update a transactional enterprise system.
27. The method of claim 26 wherein the transactional enterprise system is an MES, an ERP, or a SCM system.
28. The method of claim 26 further comprising:
updating the previous WIP status for the semiconductor product based on the updated transactional enterprise system.
29. The method of claim 1 wherein the transactions are compatible with RosettaNet.
30. A system for identifying transactions from WIP status updates, the system comprising:
an adapter for receiving WIP status updates for a semiconductor product from at least one supplier in the supply chain for the semiconductor product; and
a transaction identifier coupled to the adapter for identifying transactions based on a comparison of the WIP status updates with a previous WIP status for the semiconductor product.
31. The system of claim 30 further comprising:
a plurality of adapters for receiving WIP status updates from a plurality of different suppliers.
32. The system of claim 30 wherein the adapters are further for converting the WIP status updates to a generalized form, and the transaction identifier is further for identifying transactions

based on a comparison of the WIP status updates in the generalized form with the previous WIP status for the semiconductor product.

33. The system of claim 32 wherein the transaction identifier converts all WIP status updates to the generalized form.

34. The system of claim 32 further comprising:
another adapter for receiving WIP transactional updates for the semiconductor product
from at least one supplier in the supply chain for the semiconductor product,
wherein the transaction identifier is further for converting the WIP transactional
updates to the generalized form.

35. The system of claim 32 wherein the generalized form identifies a processing status of the semiconductor product according to a predefined set of logical operations that describe the supply chain.

36. The system of claim 35 wherein, for at least one supplier, the WIP status updates received from that supplier identify a processing status of the semiconductor product according to processing steps, and the processing steps have a finer granularity than the logical operations in the predefined set.

37. The system of claim 30 wherein the transaction identifier comprises:
an event identifier for identifying supply chain events based on a comparison of the WIP
status updates with a previous WIP status for the semiconductor product; and
an event interpreter coupled to the event identifier for interpreting the supply chain events
as transactions.

38. The system of claim 37 wherein the event interpreter is further for creating transient WIP status if a supply chain event is interpreted as at least two transactions.

39. The system of claim 30 wherein:
the WIP status updates are expressed in lots, each lot containing a quantity of the
semiconductor product; and
the transaction identifier identifies transactions on a lot basis.
40. The system of claim 39 wherein the transactions are selected from a predefined group that includes: a start transaction, a move transaction, a merge transaction, a split transaction, a scrap transaction, a bonus transaction, and an update transaction.
41. The system of claim 39 wherein the transaction identifier identifies transactions based on a change in the quantity of semiconductor product in a lot.
42. The system of claim 39 wherein the transaction identifier groups lots from the WIP status update with lots from the previous WIP status, and identifies transactions within the groupings.
43. The system of claim 42 wherein the transaction identifier groups lots based on a customer product ID.
44. The system of claim 42 wherein the transaction identifier groups lots based on a main lot ID.
45. The system of claim 42 wherein the transaction identifier groups lots based on a customer lot ID.
46. The system of claim 42 wherein the transaction identifier is further for:
classifying lots according to a change in the quantity of the lot from the previous WIP
status to the WIP status update; and
identifying transactions by combining lots according to their classifications.

47. The method of claim 42 wherein the transaction identifier is further for:
classifying lots according to a change in the quantity of the lot from the previous WIP status to the WIP status update;
identifying possible valid combinations of lots according to their classifications; and
identifying transactions by evaluating the possible valid combinations of lots.
48. The method of claim 42 wherein the transaction identifier is further for:
classifying lots according to a change in the quantity of the lot from the previous WIP status to the WIP status update, including classifying lots as quantity gaining lots, quantity losing lots, potential split-child lots and potential merge-child lots;
identifying possible split events as valid combinations of quantity losing lots with potential split-child lots;
identifying possible merge events as valid combinations of quantity gaining lots with potential merge-child lots;
identifying possible valid combinations of possible merge events and possible split events; and
identifying transactions by evaluating the possible valid combinations of possible merge events and possible split events.
49. The system of claim 30 further comprising:
a database containing a set of rules governing an identification of transactions, wherein the transaction identifier accesses the database to apply the rules to the WIP status updates and the previous WIP status.
50. The system of claim 30 wherein the transaction identifier generates a notification if at least two possible transactions of equal priority can be identified from the same WIP status update(s).

51. The system of claim 30 further comprising:
a WIP tracking database storing the WIP status for the semiconductor products, wherein
the transaction identifier accesses the WIP tracking database to obtain the
previous WIP status and the WIP tracking database is updated based on the
transactions.
52. The system of claim 51 further comprising:
a user interface coupled to the WIP tracking database for making reports of WIP status
available to a customer.
53. The system of claim 51 wherein the adapter is further for intercepting at least one WIP
status update transmitted by one of the suppliers to a customer before the WIP status update
reaches the customer.
54. The system of claim 30 further comprising:
a transaction processor coupled to the transaction identifier for processing the transactions
to update a transactional enterprise system.
55. The system of claim 54 further comprising:
the transactional enterprise system.
56. The system of claim 54 further comprising:
a synchronizer coupled between the transactional enterprise system and the WIP tracking
database for updating the WIP tracking database based on the updated
transactional enterprise system.
57. The system of claim 30 wherein the transactions are compatible with RosettaNet.